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APPLICATION NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO.
09/235,242	01/22/99	FRIEDRICH	W 48746

  

EXAMINER
HM12/0712

  

STOCKTON, I.	PAPER NUMBER
ART UNIT	1613

  

DATE MAILED: 07/12/99

This is a communication from the examiner in charge of your application.  
COMMISSIONER OF PATENTS AND TRADEMARKS

OFFICE ACTION SUMMARY

☒ Responsive to communication(s) filed on June 29, 1999

☒ This action is FINAL.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 D.C. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

- ☒ Claim(s) 2-6 are pending in the application.  
Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
☐ Claim(s) \_\_\_\_\_ is/are allowed.  
☒ Claim(s) 2-6 are rejected.  
☐ Claim(s) \_\_\_\_\_ is/are objected to.  
☐ Claim(s) \_\_\_\_\_ are subject to restriction or election requirement.

Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.  
☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.  
☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.  
☐ The specification is objected to by the Examiner.  
☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).  
☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been  
☐ received.  
☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_  
☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

- ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- ☐ Notice of Reference Cited, PTO-892  
☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). \_\_\_\_\_  
☐ Interview Summary, PTO-413  
☐ Notice of Draftsperson's Patent Drawing Review, PTO-948  
☐ Notice of Informal Patent Application, PTO-152

-SEE OFFICE ACTION ON THE FOLLOWING PAGES-

09/235,242  
★ U.S. GPO: 1996-421-632/40206

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## DETAILED ACTION

Claims 2-6 are pending in the application.

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 2-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Green {U.S. Pat. 4,617,154} in view of Sullivan, III et al. {U.S. Pat. 4,231,956} and O'Lenick, Jr. et al. {U.S. Pat. 5,196,589}.

Applicants claim a process of making a  $\gamma$ -alkoxyamine by reacting an  $\alpha,\beta$ -unsaturated nitrile with an alcohol in the presence of a basic catalyst (ie., a diazabicycloalkene catalyst) to form a  $\beta$ -alkoxynitrile followed by hydrogenation of the  $\beta$ -alkoxynitrile in the presence of a hydrogenation catalyst (ie., Raney nickel) to obtain a  $\gamma$ -alkoxyamine.

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Green teaches a process of making a  $\beta$ -alkoxynitrile and a  $\beta$ -alkylthionitrile by reacting an  $\alpha,\beta$ -unsaturated nitrile with an alcohol in the presence of a diazabicycloalkene catalyst (see columns 1 and 2). However, Green does not teach the total scope of Applicants' diazabicycloalkene catalysts or Applicants' claimed hydrogenation step.

Sullivan, III et al. teach additional diazabicycloalkene catalysts useful in the preparation of a  $\beta$ -alkylthionitrile (column 5, lines 13-25).

O'Lenick, Jr. et al. teach a process of making a  $\beta$ -alkoxynitrile by reacting an  $\alpha,\beta$ -unsaturated nitrile with an alcohol in the presence of a basic catalyst (see column 2, lines 1-9 and column 4, lines 35-42).

O'Lenick, Jr. et al. further teach that a  $\beta$ -alkoxynitrile (the products also taught by Green) can undergo a hydrogenation process, without separation or neutralization of the basic catalyst, in the presence of a suitable catalyst (ie., Raney nickel) to form a  $\gamma$ -alkoxyamine (column 2, lines 1-9 and column 4, lines 48-53).

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The claimed process is no more than a selective combination of prior art teachings done in a manner obvious to one of ordinary skill in the art since each step of the process appears to be relatively complete in itself and there is no indication of an interaction between steps of such a type that would lead one of ordinary skill in the art to doubt that a substitution of alternative steps known to the art could be made. *In re Mostorych*, 144 USPQ 38 (1964).

One skilled in the art would have been motivated to utilize the process of Green, especially in view of the teachings of Sullivan, III et al. and O'Lenick, Jr. et al., to arrive at the instant claimed process with the expectation of obtaining a  $\gamma$ -alkoxyamine. Therefore, the claimed process would have been suggested to one skilled in the art.

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*Response to Arguments*

3. Applicants' arguments filed January 27, 2000 have been fully considered. Applicants argue that: (1) the references have not been combined in the most logical manner; (2) O'Lenick et al. is the closest prior art; (3) Sullivan et al. do not teach a process of making  $\beta$ -alkoxy nitriles or  $\gamma$ -alkoxyamines; (4) Green does not teach anything about the workup of the reaction products; (5) Green teaches that the 1,4-addition alcohols to  $\alpha,\beta$ -unsaturated nitriles in the presence of a diazabicyclo-alkene catalysts to give  $\beta$ -alkoxynitriles also catalyzes the breakdown of the product to give back the alcohol and the  $\alpha,\beta$ -unsaturated nitrile; and (6) Sullivan teaches the neutralization of the catalyst immediately following the addition reaction.

All of Applicants' arguments have been considered but have not been found persuasive. Applicants claim a process of making a  $\gamma$ -alkoxyamine by reacting an  $\alpha,\beta$ -unsaturated nitrile with an alcohol in the

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presence of a basic catalyst (ie., a diazabicycloalkene catalyst) to form a  $\beta$ -alkoxynitrile followed by hydrogenation of the  $\beta$ -alkoxynitrile in the presence of a hydrogenation catalyst (ie., Raney nickel) to obtain a  $\gamma$ -alkoxyamine.

Green teaches a process of making a  $\beta$ -alkoxynitrile and a  $\beta$ -alkylthionitrile by reacting an  $\alpha,\beta$ -unsaturated nitrile with an alcohol in the presence of a diazabicycloalkene catalyst (see columns 1 and 2). Therefore, the Green reference is considered closer to the instant claimed invention than O'Lenick, Jr. et al. Green does not teach Applicants' claimed hydrogenation step. O'Lenick, Jr. et al. teach that a  $\beta$ -alkoxynitrile (the products also taught by Green) can undergo a hydrogenation process in the presence of a suitable catalyst (ie., Raney nickel) to form a  $\gamma$ -alkoxyamine (column 2, lines 1-9 and column 4, lines 48-53).

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The Sullivan et al. reference was applied to show that a class of diazabicycloalkene catalysts (see the catalyst genus in column 5) are used in a process of making a  $\beta$ -alkylthionitrile whereas the Green reference only teaches a few of the diazabicycloalkene catalysts in a process of making a  $\beta$ -alkoxynitrile and a  $\beta$ -alkylthionitrile.

In response to Applicants' argument concerning the removal or neutralization of the diazabicycloalkene catalyst in Green and Sullivan et al., neither reference teach the subsequent hydrogenation of the  $\beta$ -alkoxynitrile in the presence of a hydrogenation catalyst to obtain a  $\gamma$ -alkoxyamine. However, O'Lenick, Jr. et al., who does teach the hydrogenation step, teach that hydrogenation step is performed without separation or neutralization of the basic catalyst (see Examples 1-9 in columns 4-6). For all the reasons given above, the instant claimed invention is found to have been obvious to one skilled in the art.

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*Conclusion*

4. Applicants' amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.



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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura L. Stockton whose telephone number is (703) 308-1875.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-1235.

A facsimile center has been established. The hours of operation are Monday through Friday, 8:45 AM to 4:45 PM. The telecopier numbers for accessing the facsimile machine are (703) 308-4556 or 305-3592.

A handwritten signature in cursive script, reading "Laura L. Stockton", written over a horizontal line.

Laura L. Stockton  
Patent Examiner  
Art Unit 1613, Group 1610  
Technology Center 1

February 14, 2000